

FIG. 1

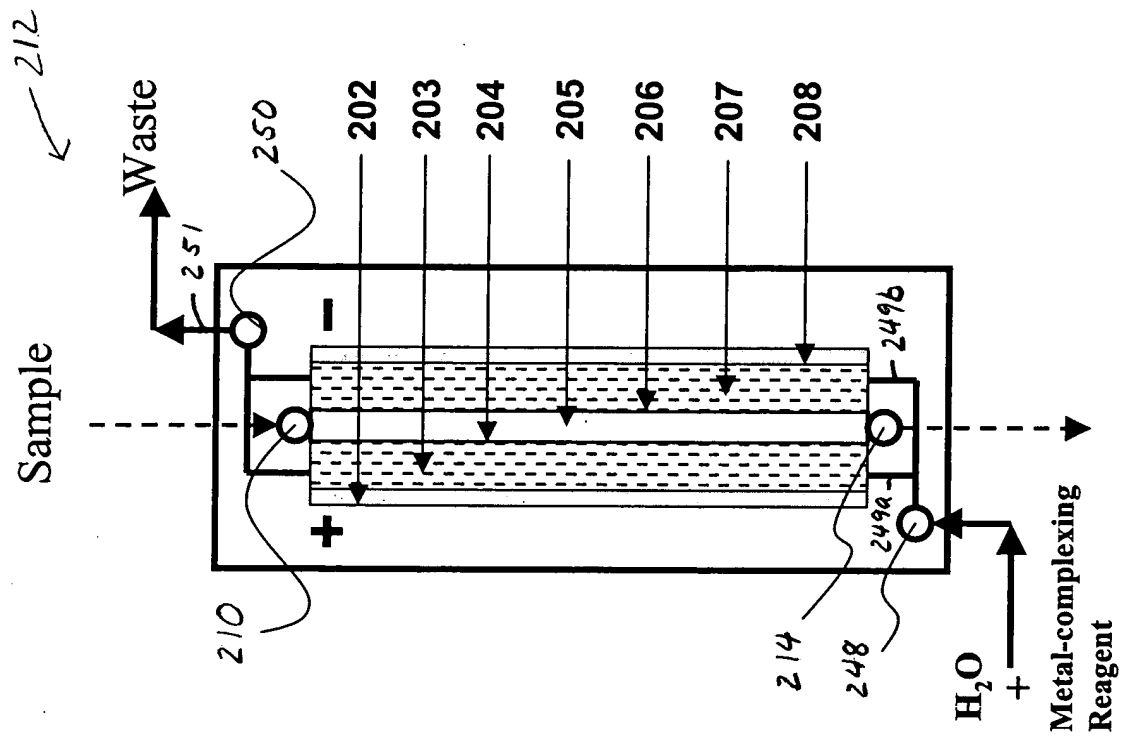


FIG. 2

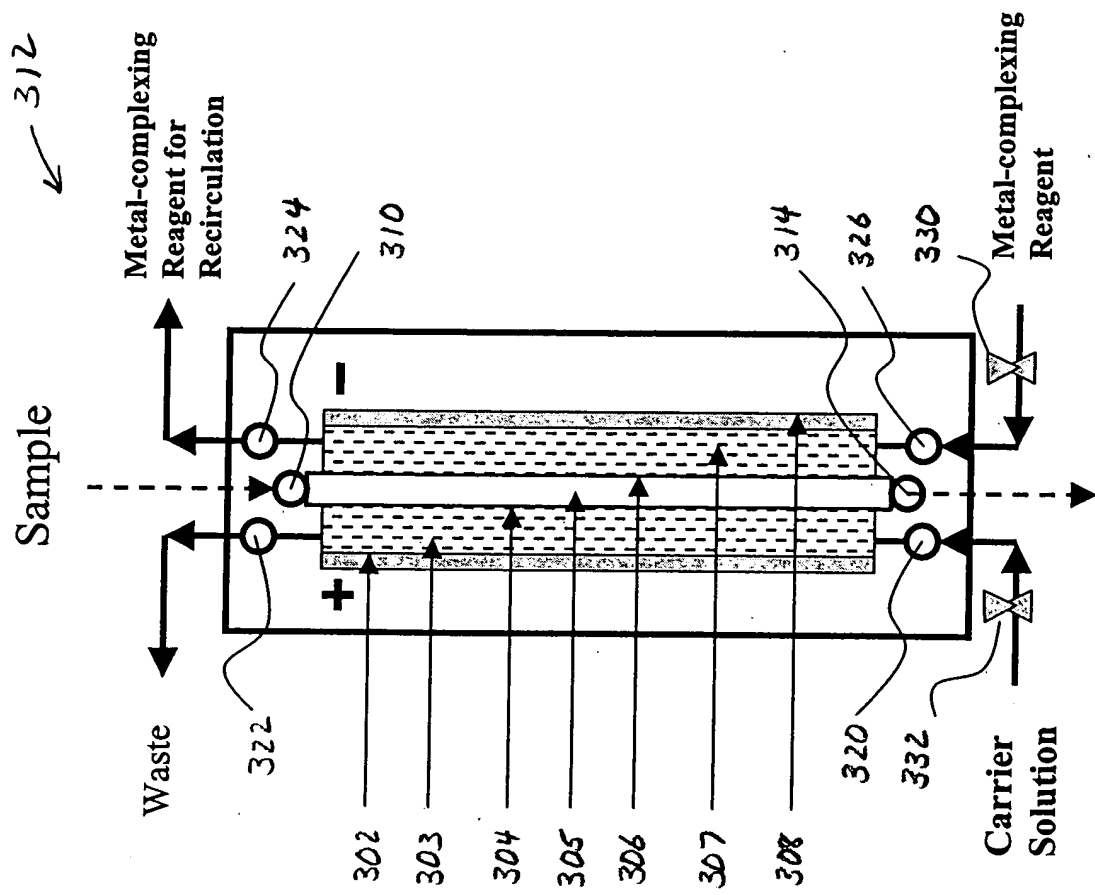


FIG. 3A

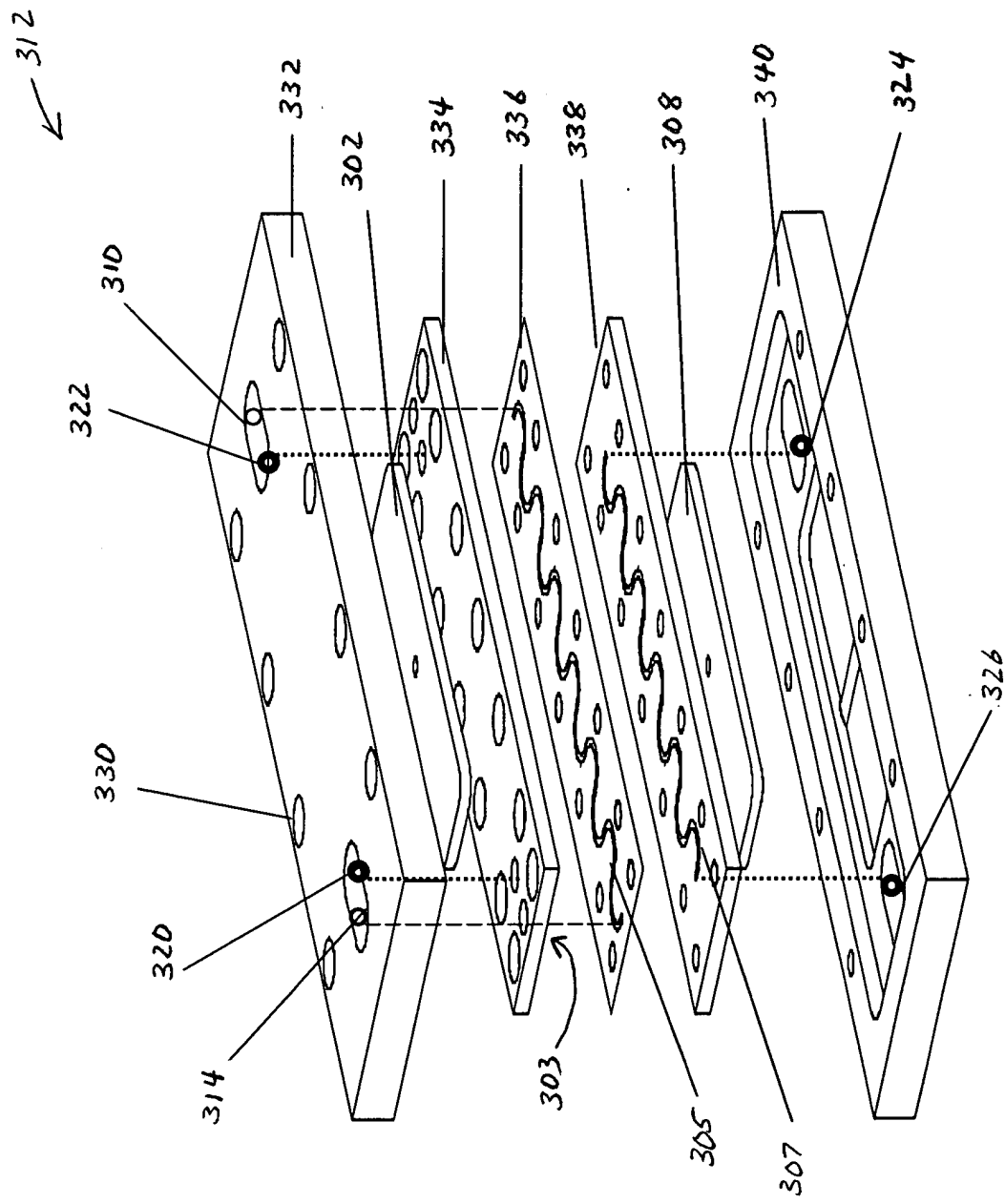


FIG. 3B

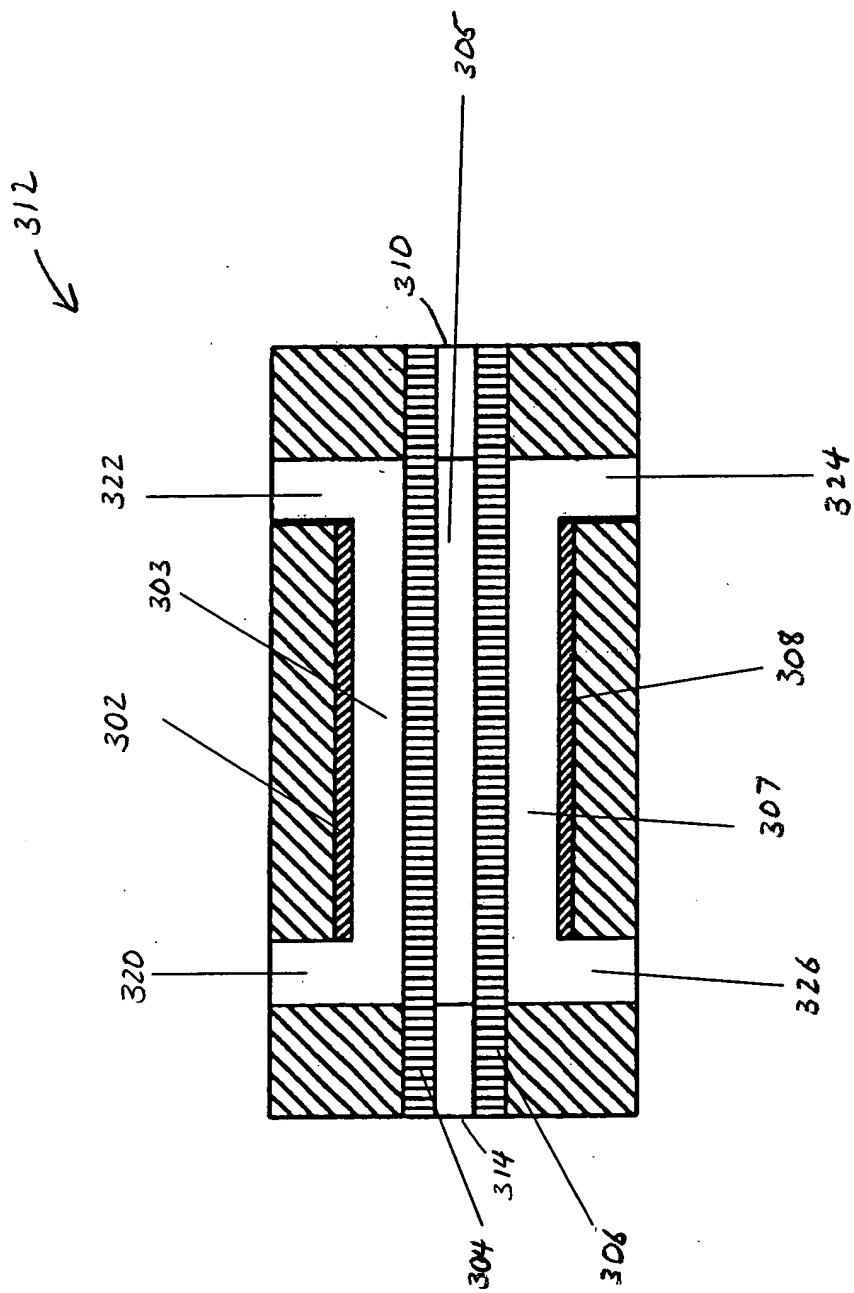


FIG. 3C

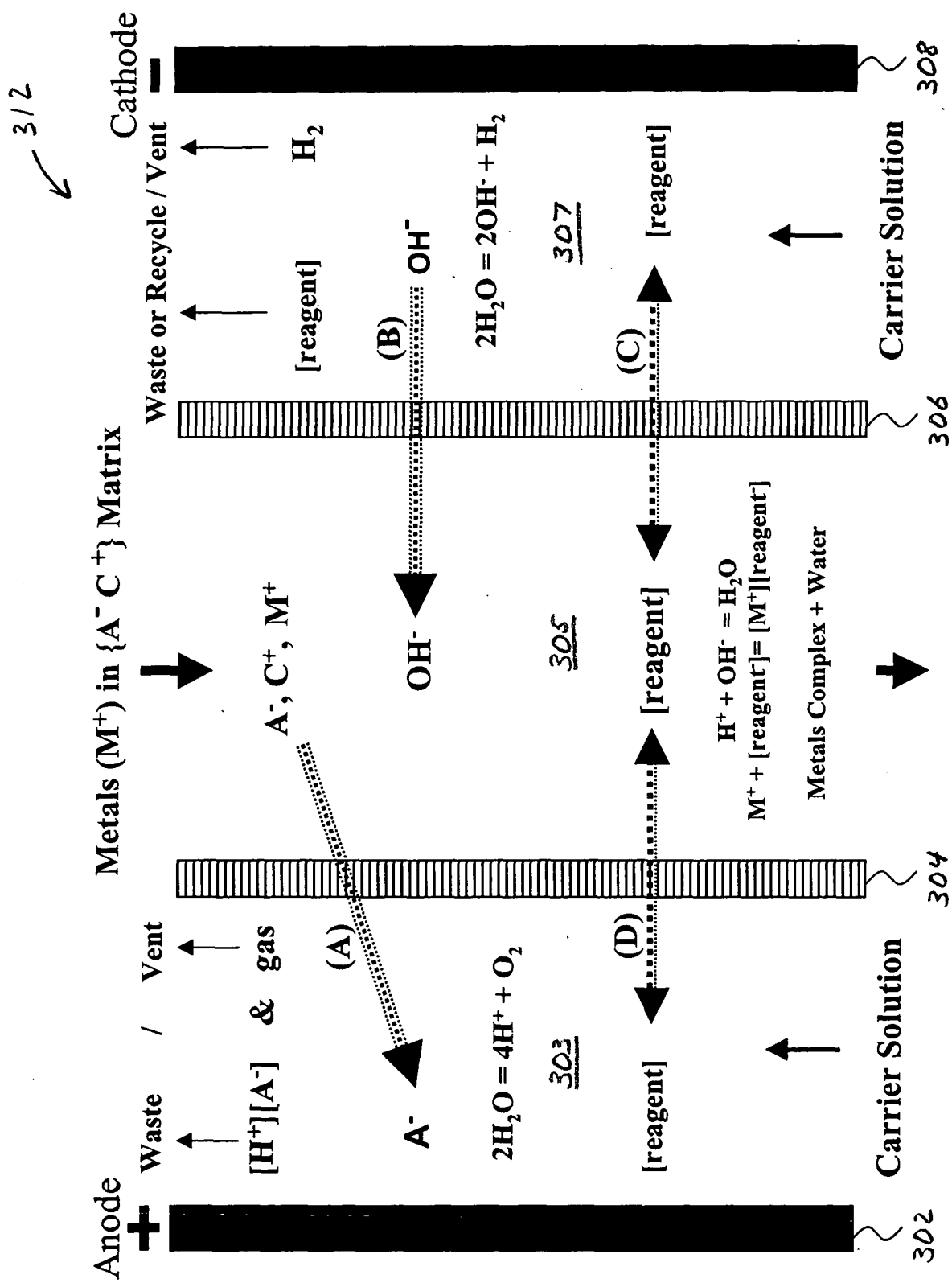


FIG. 4A

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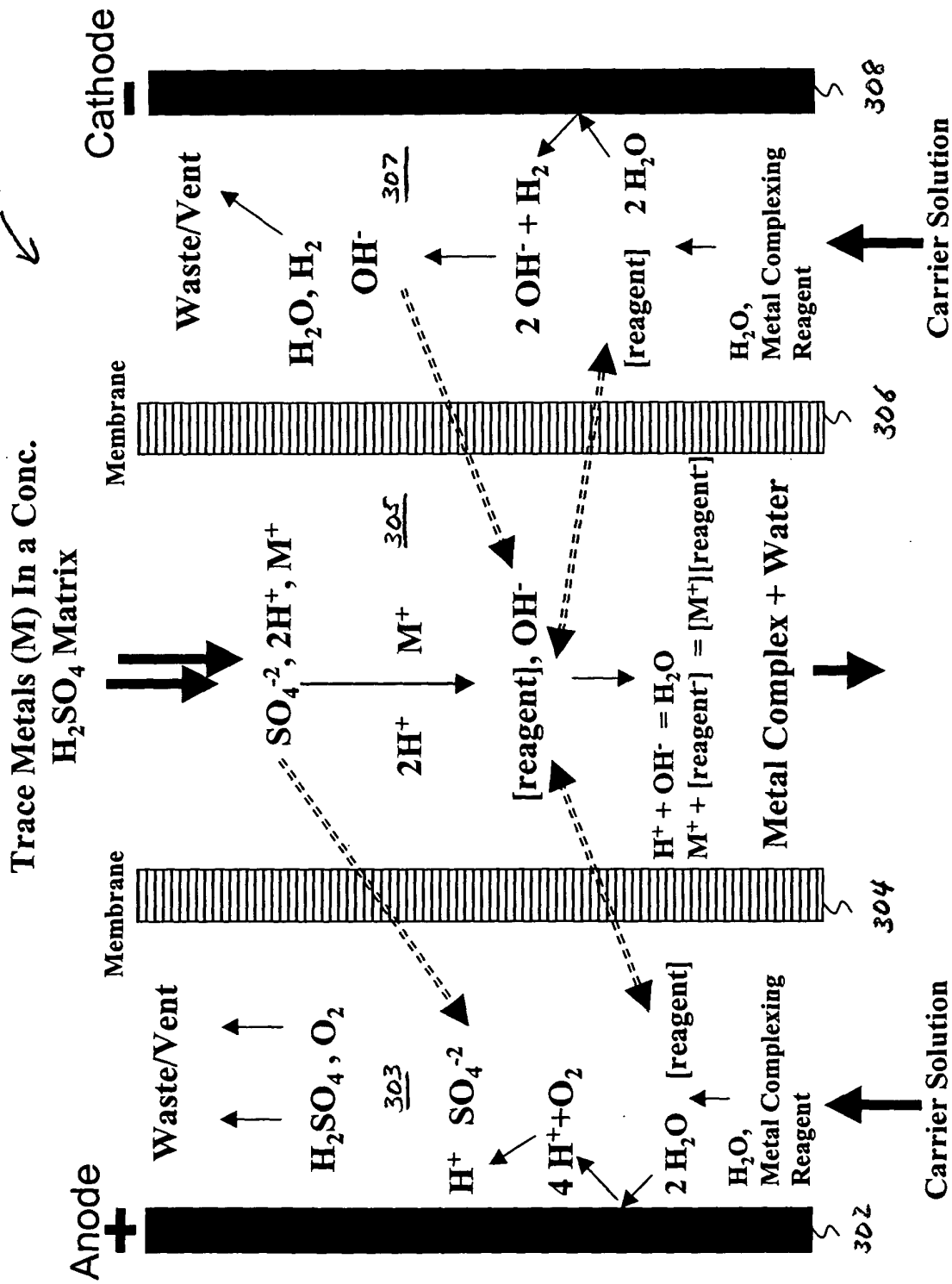
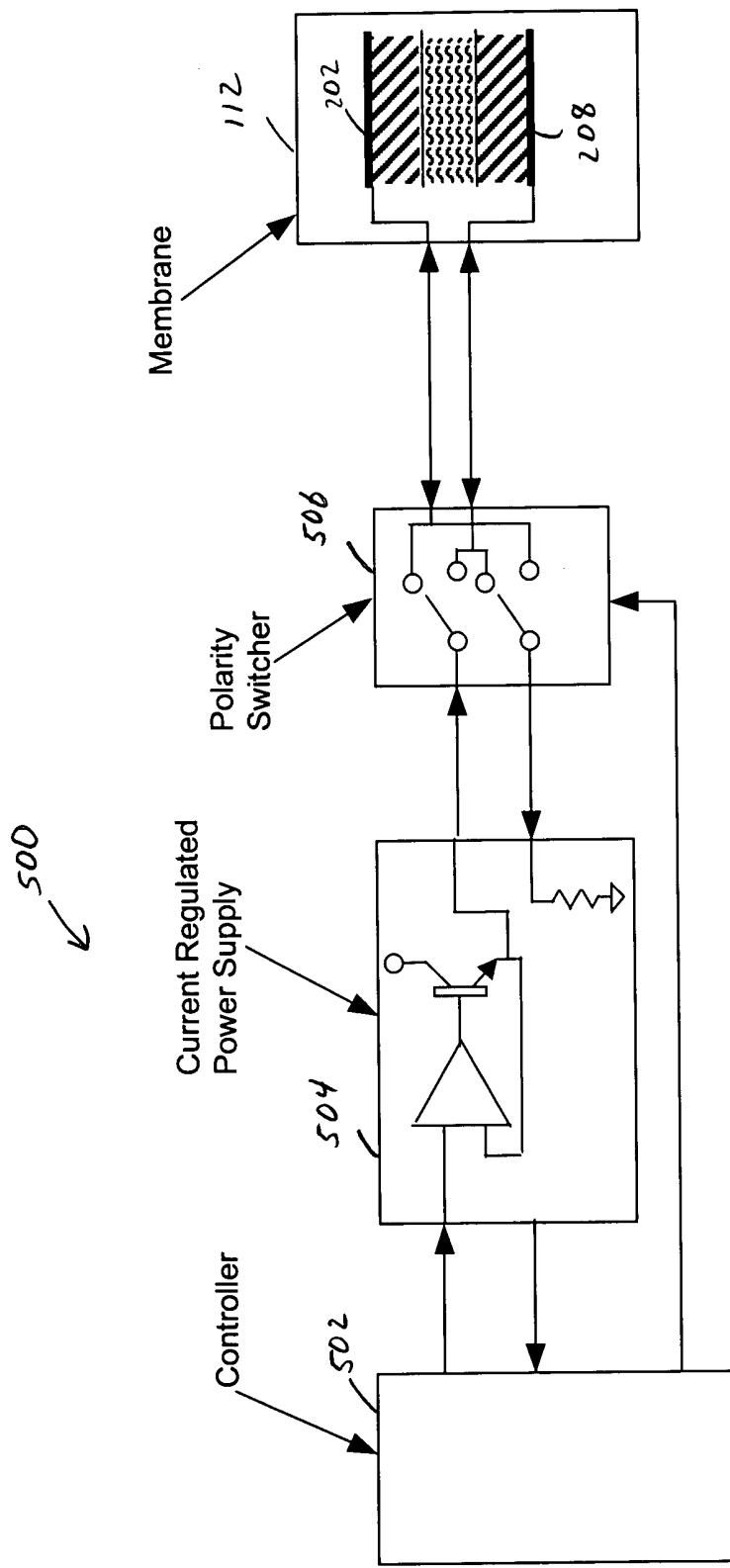


FIG. 4B



**FIG. 5**



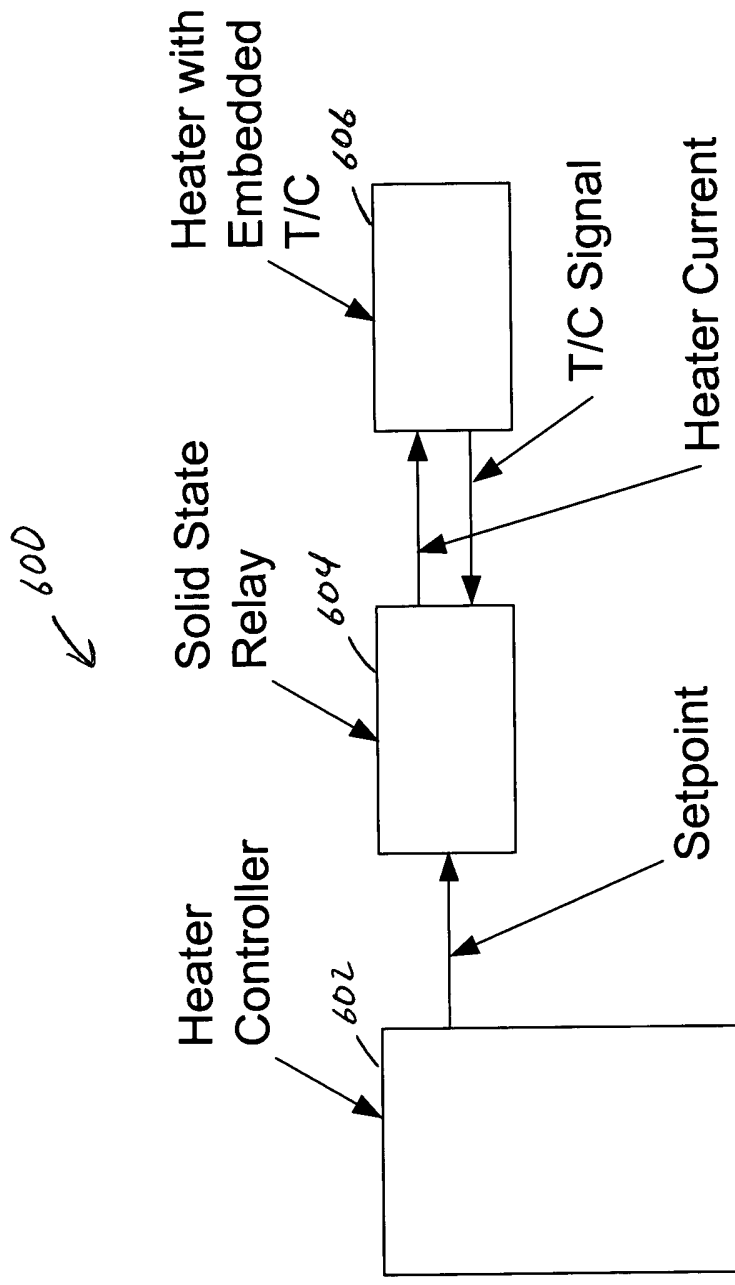


FIG. 6

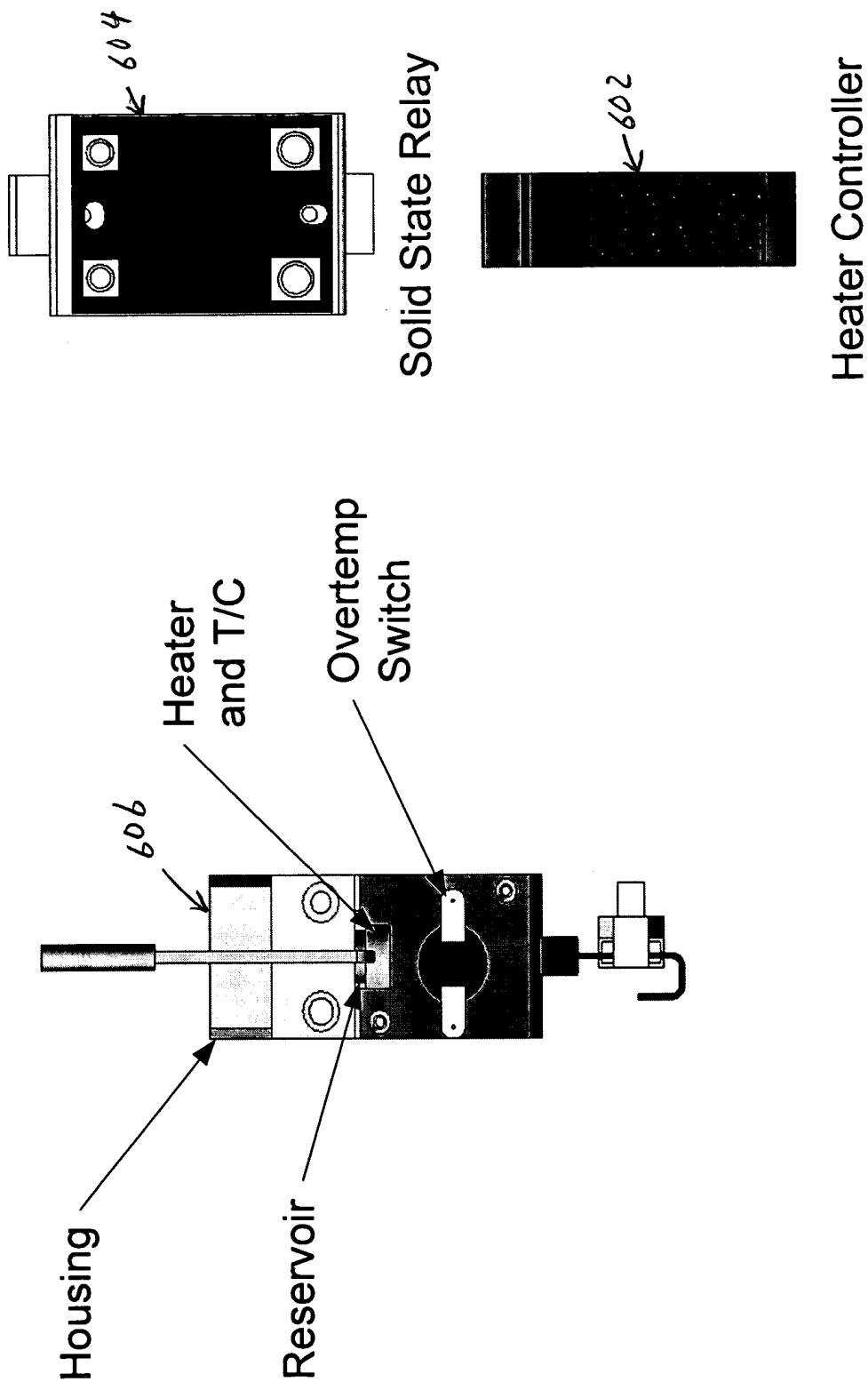


FIG. 7

```

' $Workfile: Membrane.config $
,
membrane_A_enable = 1
membrane_D_enable = 1

membrane.sensor.antibubble.retry=10      ' # of times to requery optical sensor when air is detected
membrane.sensor.antibubble.retry.delay= 1 ' delay (seconds) between requeries of sensor when air is
detected

' Solution used with membrane
,
membrane_A_solutionname = HF
membrane_D_solutionname = H2SO4

' HF
,
HF_operating_vol = 1600      ' implied volume of solution in syringe before membrane operation
begins
HF_carrier_solution = HF
HF_carrier_syr_speed = 10
HF_refill_speed = 30

HF_stage1_neutralization_speed = 10 ' speed to push through membrane, in microliters/sec
HF_stage1_cycles = 2                ' times to repeat this run
HF_stage1_current = 250              ' milliamps
HF_stage1_polarity = 0               ' -1 = oscillate, 0 = negative, 1 = positive

HF_stage2_cycles = 2
HF_stage2_polarity = 0
HF_stage2_neutralization_speed = 10
HF_stage2_current = 200

UPW_clean_num_cycles=2
UPW_clean_refill_speed=30
UPW_clean_neut_speed=10

HF_num_stages=2      ' increment this, and add additional HF_stageX parameters to have more stages

```

**FIG. 8**

# Metara

## Status and Alarms

Job Scheduler Status: Sinnerlinh.scheduler

Logged in as dev

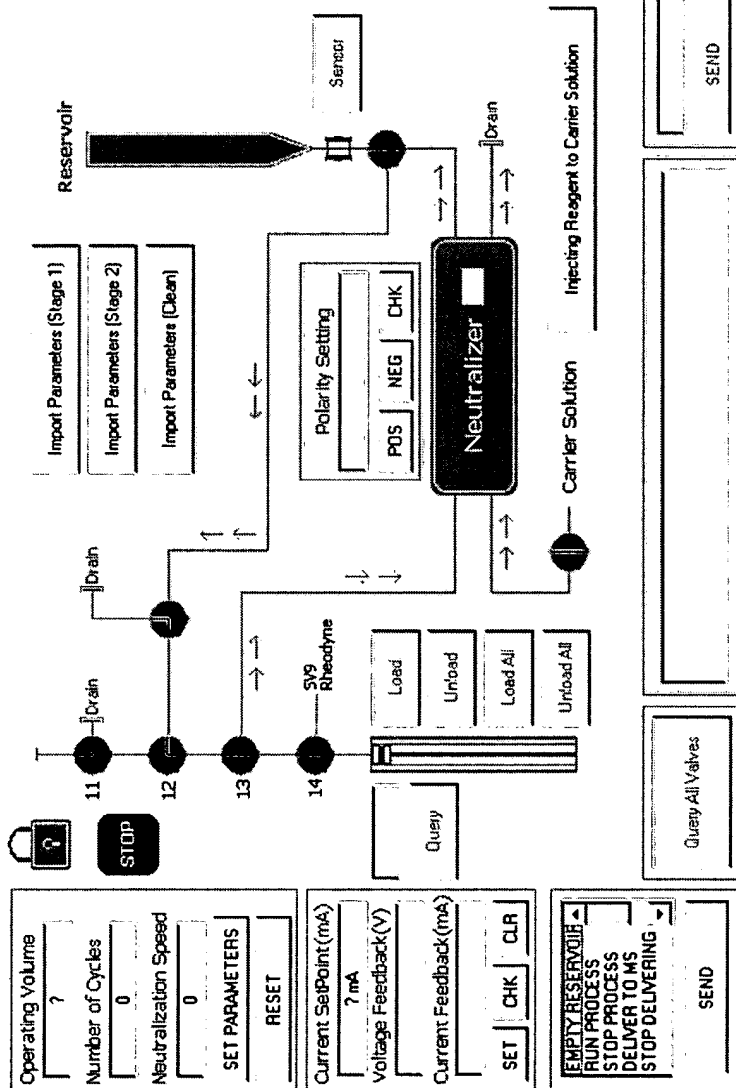
Logged in since 6/17/2003 2:01:00 PM

Current time 6/17/2003 2:01:43 PM

Log out

- Bath Status
- Alarm Manager
- Contam Manager
- Tool Status**
- System Status
- Comm Status

Neutralizer A Neutralizer D



Extraction Module Dilution Module Rheodyne Manual Mixing Auto Mixing Membrane Carrier Solution

**Status/ Alarms**

Datalog

Recipes

System

Jobs

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FIG. 9

# Elements in Sulfuric Acid Matrix

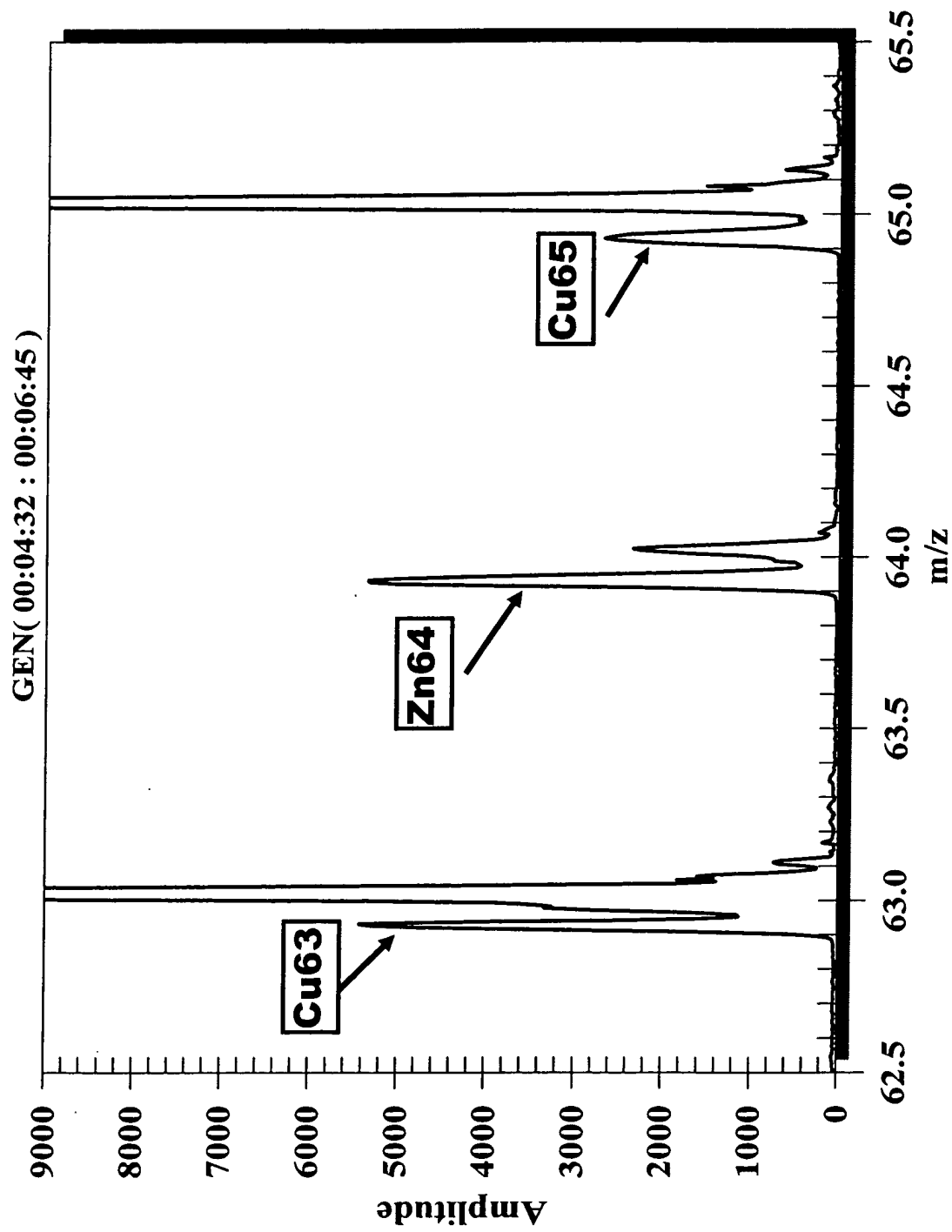


FIG. 10

# Buffered Hydrogen Fluoride (BHF)

TOF Mass Spectrum of Elements

GEN( 00:04:48 : 00:06:08 )

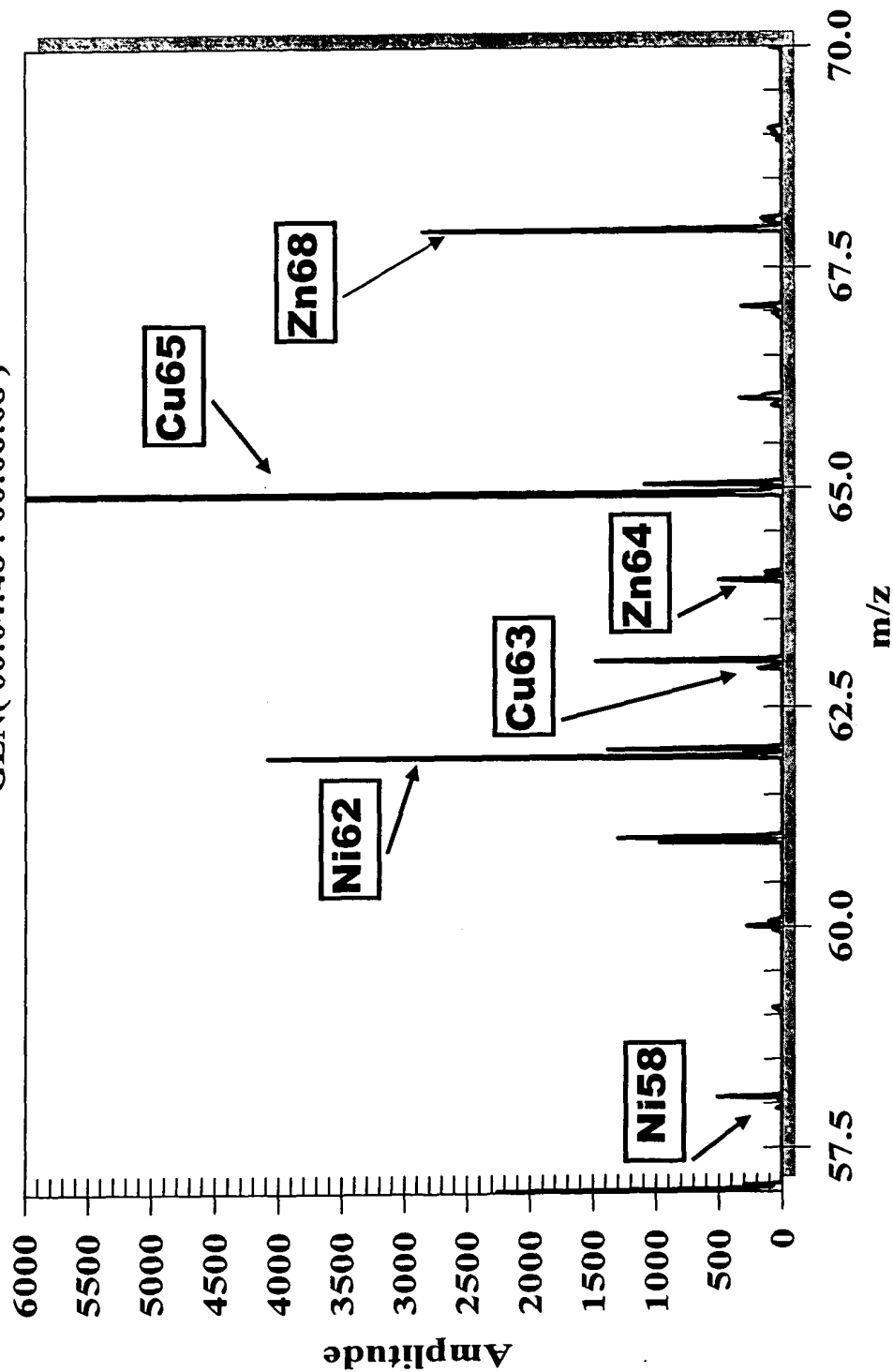


FIG. 11